



NATIONAL AERONAUTICS
AND SPACE ADMINISTRATION

Reuse Working Group – Report Back

Co-chairs:

Robert Wolfe, NASA GSFC

Vic Delnore, NASA LRC

5th Earth Science Data Systems Working Group
Meeting

College Park, MD

November 14 - 16, 2006



Reuse Breakout Summary

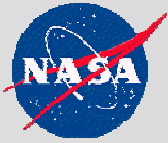
- RES Prototype Evaluations
 - Demonstrated XOOPS site and had members complete evaluations
 - Demonstrated Savane site and asked members to send us completed evaluations
- Bottom-up Reuse Presentations and Discussion
 - Institutional Support and Legal Obstacles to Open Source Software [*Bradford Castalia (U. of Arizona), invited speaker*]
 - Intellectual Property Rights Issues for Software Reuse [Bob Downs and Vic Delnore]
 - (Re)use of Virtual Globes for the Earth Sciences [Ross Swick]
 - Hierarchy of Reuse: Designing Systems to Promote Reuse [Mark Sherman]
 - A Core Plug and Play Architecture for Component-Based Reusable Flight Software Systems [*Jonathan Wilmot (GSFC Flight Software Branch), invited speaker*]
 - All presentations will be posted on reuse portal web site, including additional ones on documentation [Jim Marshall], object-oriented programming [Ryan Gerard], and metadata [Mary Hunter]
- Future Planning
- Posters and Demos



Plan for 2007 – Tasks (1 of 2)

- Reuse enablement system
 - ***Complete and submit architecture study***
 - Develop implementation plan
 - Develop and test prototype
- Reuse portal web site
 - Provide more content and keep up to date
 - Promote portal to community
 - ***Develop approaches for bottom-up reuse***
 - Enhance discovery of reusable assets
- Provide incentives for reuse
 - Recognition of examples of reuse (develop peer recognition process)
 - Work on recommendation/justification for HQ to develop a funding opportunity to make assets/components reusable

Higher priority



Plan for 2007 – Tasks (2 of 2)

- Metrics/measurements
 - Continue to generate/analyze statistics for portal web site
 - **Assess effort required to package assets for reuse**
 - Work with projects such as ECHO and S4PM to determine how much effort it took to release systems on Open Source web site
 - Also quantify benefits of open source release of assets
- Promote reuse
 - **Continue publications in journals and presentations at conferences**
 - Prototype a process for facilitating reuse through mentoring
 - Develop reuse readiness level scale
- Policy
 - **Continue working with Office of Technology Transfer to facilitate software release process**
- Reuse of Services
 - Identify potential to promote reuse of web services
 - Opportunity for collaboration with other WGs (Tech. Infusion and Standards)

Higher priority



2007 Challenges

-
- Increasing the level of participation in our WG
 - Identifying and reaching out to decision makers at the NASA Center level
 - Reaching out to other ES domains (e.g., modeling community – ESMF, National Forum for Geoscience Information Technology – FGIT)
 - Obtaining legal and business advocates for release of software for reuse



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Earth Science on SourceForge

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Browsing 164 Earth Sciences project results

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Project Name	Rank	Activity	Registered	Latest File	Downloads
S4PM	5,584	96.79%	2005-04-03	2006-10-31	271
The Simple, Scalable, Script-based Science Processor for Measurements (S4PM) is a system for highly automated processing of science data, scalable up to large processing systems and scalable down to small, special-purpose processing strings.					
Members (4)					
Topic: Earth Sciences , Distributed Computing , Algorithms					
Earth System Modeling Framework	7,064	95.94%	2001-10-18	2005-11-09	598
The Earth System Modeling Framework provides high-performance software infrastructure and superstructure for the construction and coupling of climate, weather, and data assimilation applications.					
Members (39)					
Topic: Earth Sciences					

Project Topics

- Topic (162094)
 - Communications (16132)
 - Database (6239)
 - Desktop Environment (3336)
 - Education (4202)
 - Formats and Protocols (2279)
 - Games/Entertainment (15074)
 - Internet (25414)
 - Multimedia (13668)
 - Office/Business (8199)
 - Other/Nonlisted Topic (2327)
 - Printing (466)
 - Religion and Philosophy (309)
 - Scientific/Engineering (12658)
 - Artificial Intelligence (1811)
 - Astronomy (257)
 - Bio-Informatics (922)
 - Chemistry (260)
 - Earth Sciences (164)**
 - Ecosystem Sciences (66)
 - Electronic Design Automation (EDA) (344)
 - GIS (466)



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Web Sites and Contacts

- Software Reuse Portal Web Site
 - <http://softwarereuse.nasa.gov/>
- Collaboration Web Site
 - <http://www.sciencedatasystems.org/seeds/wg/reuse/default.aspx>
- Mailing List
 - Send e-mail to Support Contacts (below)
- Monthly Telecons
 - Third Wednesday of the month @ 2 pm Eastern time
- Support Contacts
 - Jim Marshall (james.marshall@gsfc.nasa.gov)
 - Ryan Gerard (ryan.gerard@gsfc.nasa.gov)